CS Bridge
Section Leaders' Guide to Virtual Section

Welcome to the one-stop-shop for everything you need to know about teaching a virtual section! This is an evolving document, and we would love to integrate any contributions or suggestions that you have, so let us know if you have anything to add!

Navigating this guide

- See a **table of contents** of this guide beginning on page 2. Many of the hyperlinks will also take you to the appropriate section of the guide.
- To **keyword search** for something specific, use Cmd+F (Mac) or Ctrl+F (Windows).
- All Zoom buttons will be highlighted like `this`.

Refer to this if...

- You're preparing for section and need a refresher on the basic Zoom functionality that you should know or might be helpful.
- You want to browse supplementary Zoom features and why/how to use them to make your section even better!
- You are facing technical difficulties (see Troubleshooting).
    - Still stumped after skimming this guide? Feel free to contact Ceren, Head TA: ckocaogullar15@ku.edu.tr

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

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Adapted from “Code in Place SLs' Guide to Virtual Section,” by Code in Place Team. 2020.

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I. Preparing for section

A. Setting up Zoom

Downloading Zoom

Before you can use Zoom, you must install the Zoom software for your device. Start by going to the Zoom Download Center to download and install the “Zoom Client for Meetings”.

Logging in to Zoom

Stanford - If you are currently Stanford-affiliated, find instructions for logging into your Stanford Zoom here.
Koc - Log into your Koc Zoom account
CTU - Ondřej Guth <ondrej.guth@fit.cvut.cz> will provide instructions on how to log in.

Creating your recurring meeting

You will need to create a recurring Zoom meeting. You and your students will **use this same link to access this meeting room every day.** Please **follow these steps carefully** to create your recurring meeting:

- Go to zoom.us/meeting (or stanford.zoom.us/meeting if you’re a Stanford-affiliated user) and sign in if necessary.
- Click the blue `Schedule a New Meeting` button.

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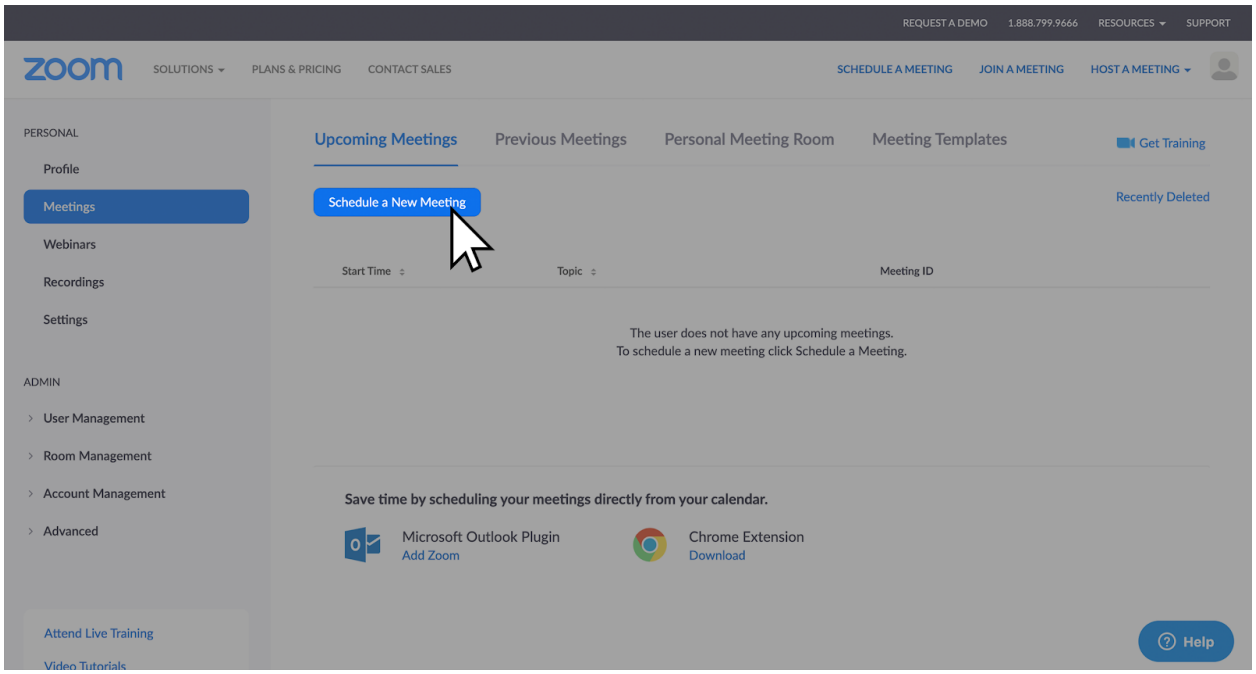
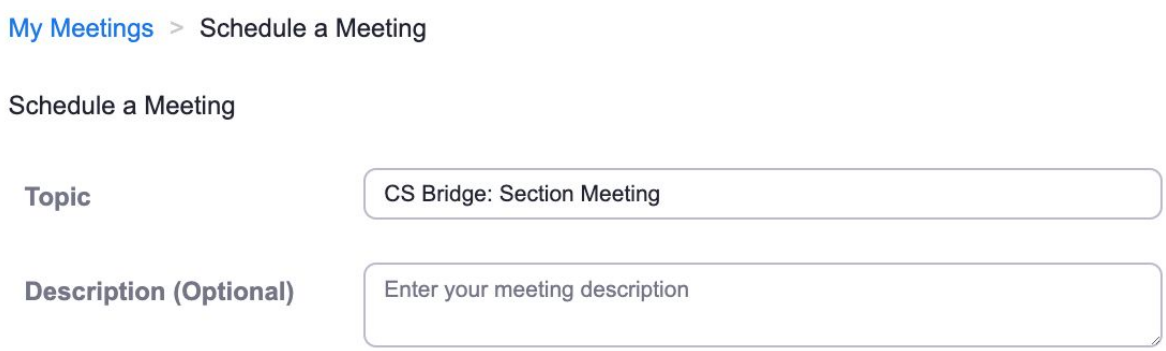


- **Leave fields not explicitly mentioned as default.**
- Set the meeting “Topic” to “CS Bridge: Section Meeting”.



- For the “When” field, fill in the date corresponding to your first section and the time. Leave the “Duration” as the default 1 hour. Double check that your “Time Zone” corresponds to the time you entered in.
- Check the “Recurring meeting” box.
    - Set the “Recurrence” field to “Daily”.
    - For “End date”, make sure the leftmost bubble is selected, and then choose the date to be “08/20/20” using the calendar icon. Don’t worry about scheduling it through the weekends. No sections will actually be held over the weekend.
- Next to “require meeting password,” **set the meeting password to “123456”, no quotations**.
- In the “Video” section, leave both “Host” and “Participant” options as “off”.

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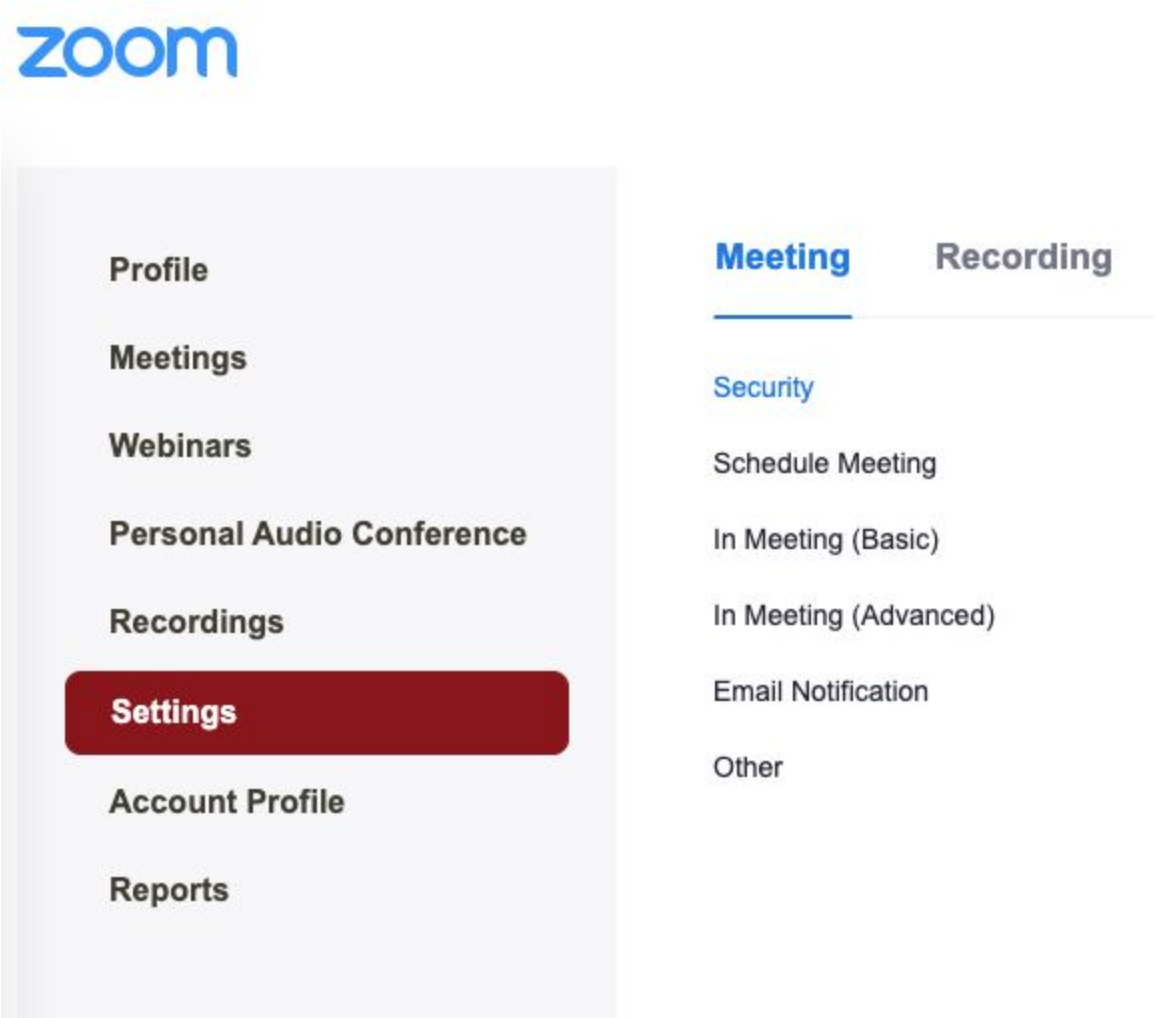
- In the “Meeting Options” section:
    - Uncheck the “Enable join before host” box.
    - Check the “Mute participants upon entry” box.
    - Uncheck “Enable waiting room”.
    - Make sure “Record the meeting automatically on the local computer” is unchecked.
    - Uncheck “only authenticated users can join”
    - Make sure private chat is turned off so that students can’t private chat each other
- Click Save.
- You will be redirected to the meeting page. Copy the “Join URL” and **keep the URL and password (which should be “csbridge”) somewhere accessible** — you’ll need this to access your meeting and to send to your students so they can attend section every week.

Zoom Account Settings



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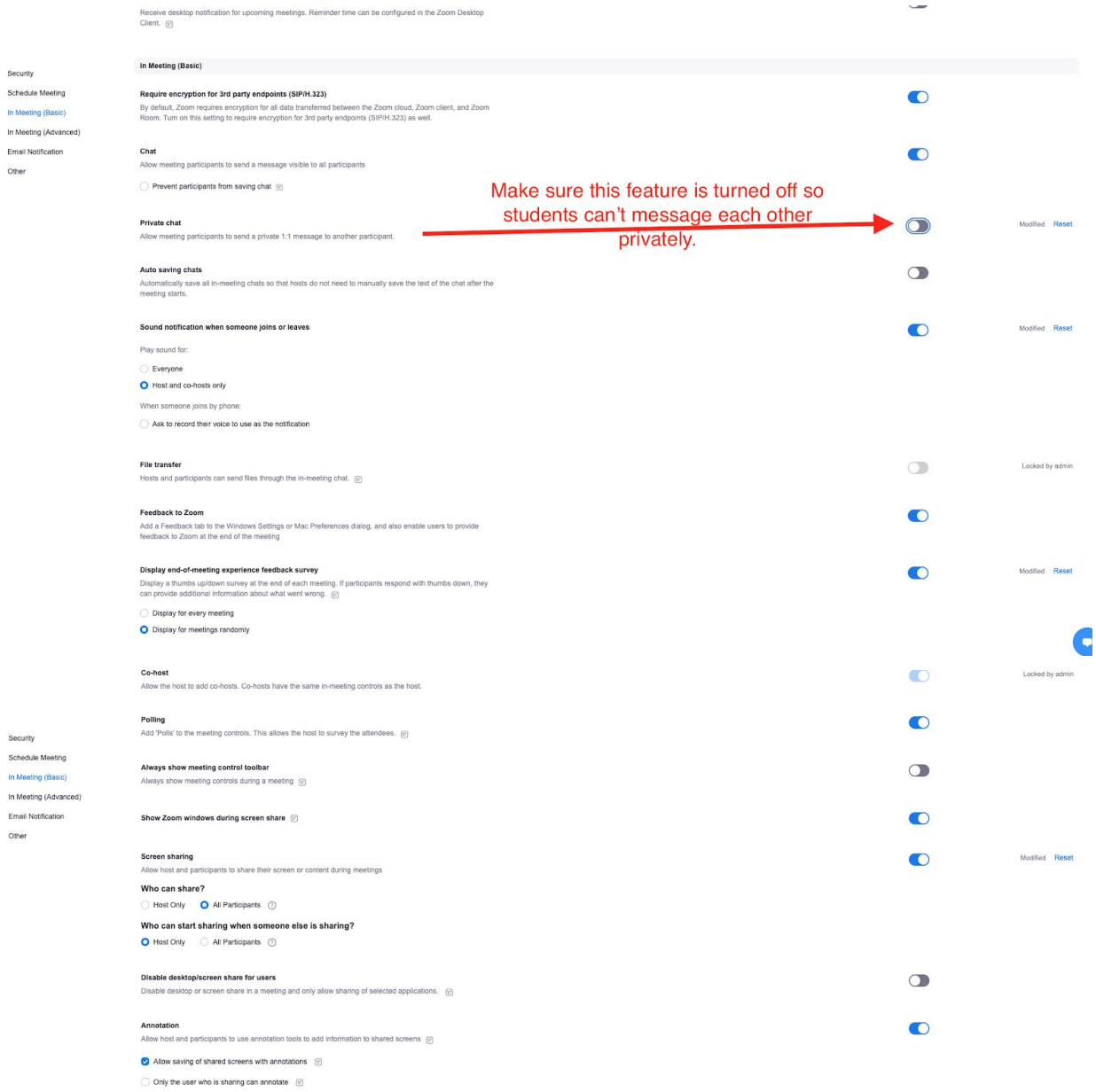
Below are the features you should make sure are turned on.

In Meeting (Basic)



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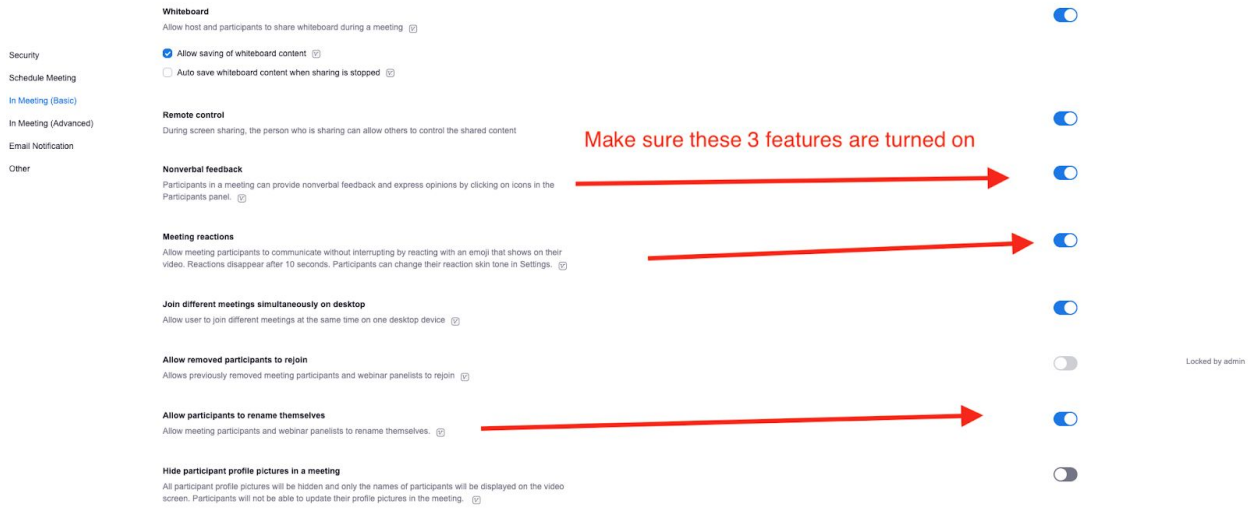
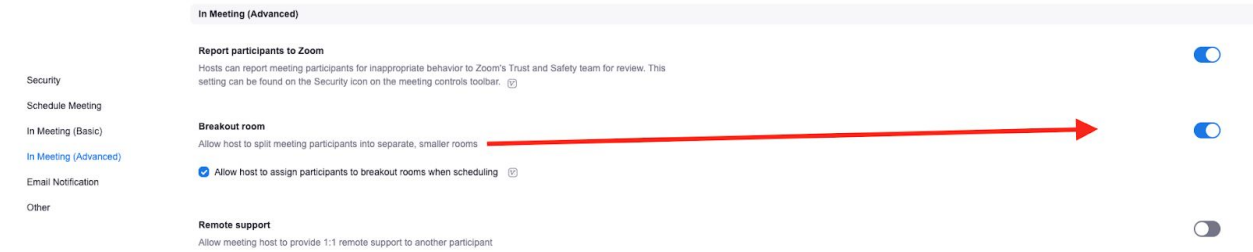


In Meeting (Advanced)



B. Establishing section policies

Below are some general Zoom section policies that we recommend **establishing during your first section**.

- Ask students to **have their camera on during section, if possible**.
    - Note that this may not be possible or comfortable for all students, for a variety of reasons. For example, some may not have a camera on their device, and turning off video can also help with slower internet.
- Ask students to **mute themselves when they aren't talking** - this reduces feedback and background noise.
    - When you created your recurring meeting room, you chose the options such that students are muted by default when they join the call. Students can unmute themselves if they have a question or have a contribution they want to make.
- If possible, ask students to **use headphones or earbuds**. This also cuts down on feedback and background noise levels.
- In your first section, you should make it clear that section will still be an interactive experience. **Explain to your students how you would like them to participate** — contributing verbally, using nonverbal feedback icons, answering polls, etc.

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

    - One effective strategy to establish good section participation norms would be to show the "Engage as an active Zoom participant" video during the first section.
- For more great strategies for how to effectively set norms during your first section such as strategies for ensuring equitable participation in an online setting, check out the list of suggestions produced by Stanford's Center for Teaching and Learning (CTL) - of the CTL Guide to Equitable and Inclusive Online Learning.

Additionally, **we strongly recommend doing icebreakers during your first section** so everyone can get to know each other! Building a virtual community in online courses is essential to help promote an inclusive and welcoming learning environment.

II. Conducting section

A. Accessing the meeting

To enter the meeting room each week, use the recurring meeting link you created.

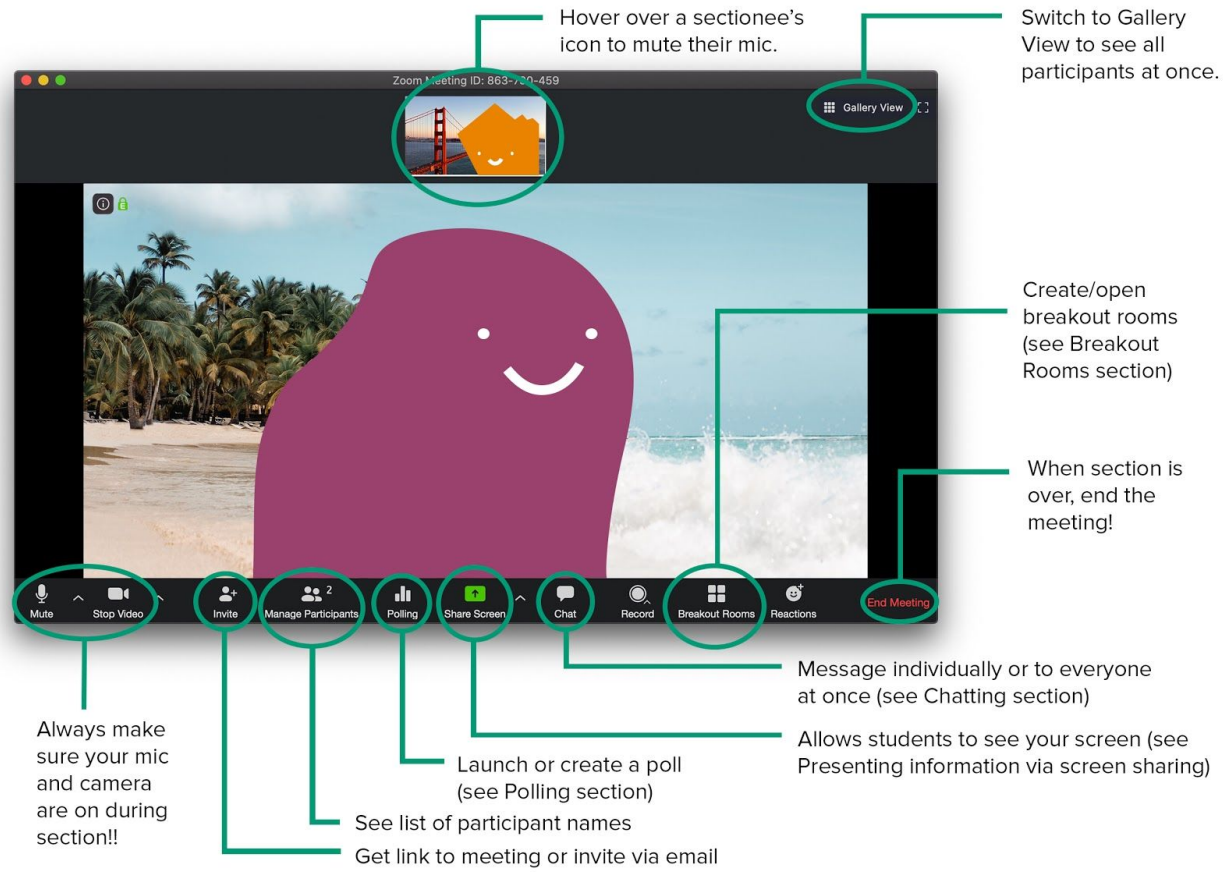
- We recommend you join the room a few minutes early to guard against technical difficulties.

B. During section

Outlined below is an introduction to your Zoom meeting view and a recommended section workflow. Feel free to watch a video walkthrough of this information, and note that this guide will contain more detailed information than the video.

Anatomy of a Zoom meeting

This is what a Zoom meeting looks like:



1. Concept review

Begin section by gauging how your students are feeling about the week's material and addressing any lingering confusions about lecture.

Click `Gallery View` in the top right corner to see all your students' screens at once, and open the floor up to student questions.

When asking questions, you may have to pause for longer than you would if you were teaching in-person to make sure that you're leaving enough time and space for students to un-mute themselves and answer the question.

To explore different ways of engaging your students and assessing their understanding of new material, see [Increasing participation and engagement]() below.

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

- Try posing a question to the group and using a poll or asking for nonverbal feedback to get a general sense of how your students are feeling.
- Optionally, prompt students to send a chat message to you with any questions they have about lecture.

2. Brainstorming and pseudocoding

Now that everyone's on the same page with lecture content, begin tackling the section problems. Instead of rushing straight into code, make sure to first ***clarify what the question is asking*** *with examples and diagrams, if applicable, and* ***hash out the approach/pseudocode*** *in plain English. Remember that we're not only teaching sectionees how to write code but also how to think about a problem like a good programmer — this part is really important!*

Depending on the type of problem, you may be able to get creative with how you pseudocode — see Presenting information via screensharing below for some ideas!

- Annotating your section handout on your screen might be a good way to highlight important words in the question statement.
- As an example, graphics and image-processing questions might be well suited to drawing diagrams on a physical whiteboard or on a piece of paper, recorded with an additional camera.
- Screen sharing with Google Slides (draw diagrams, and add text!), typing bullet points in a text editor/IDE, or drawing on the Zoom Whiteboard may be helpful.

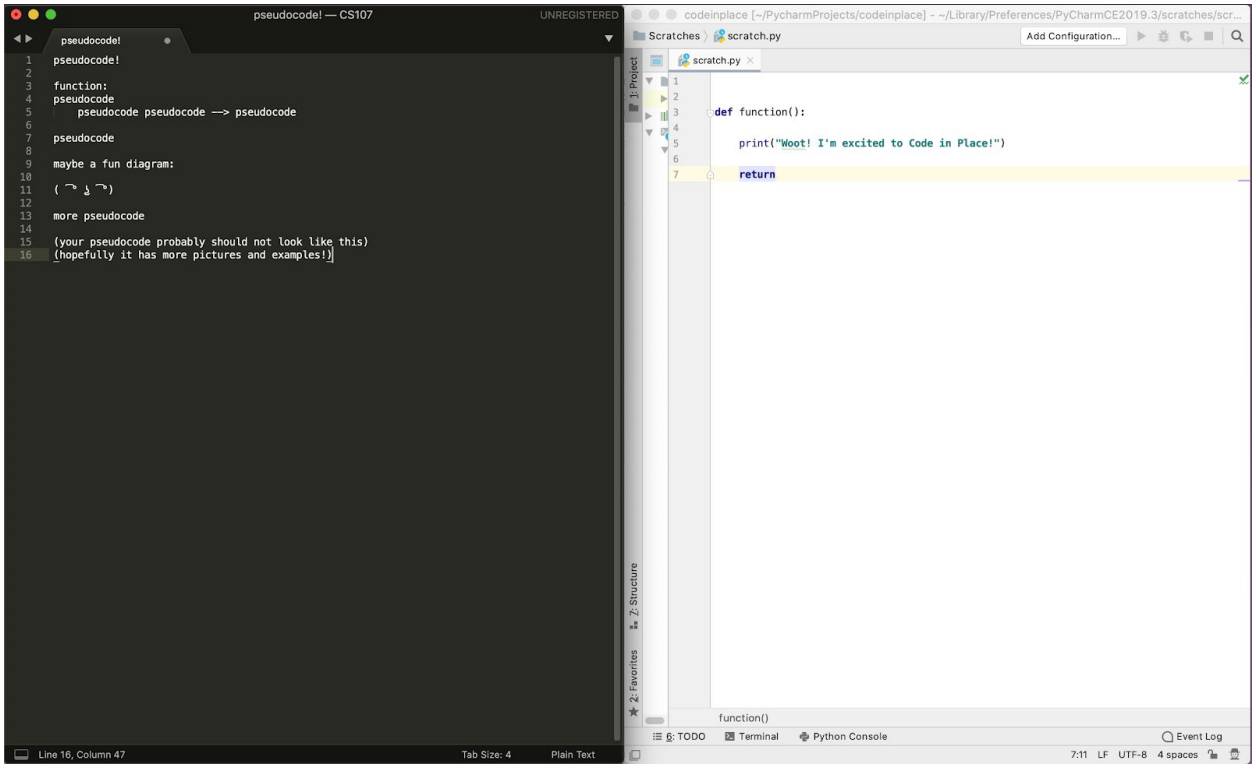
Remember to let your students share their ideas here as much as possible! Be sure to check in intermittently, to make sure your students understand what's happening and feel like a part of the brainstorming process — see Increasing participation and engagement below.

3. Live coding

Now that your sectionees understand the approach, it's time to code the solution up!

Screen sharing is really great for this (click the green `Share Screen` button, located in the bottom center of the meeting) — **make sure your students are the ones coming up with the solution**. Your job is to guide them in the right direction and type out the class's solution as you go in your favorite text editor/IDE; we strongly recommend using PyCharm. As always, be sure to explain yourself as you're writing up the code!

Make sure to **keep your pseudocode visible while coding** so students can see how it translates to code. To do this we recommend a **split screen with both your text editor/IDE and a screenshot of your pseudocode** (or whichever window your pseudocode is open on); see below for example. To capture a screenshot, use Shift+Cmd+4 on Mac and Windows+Shift+S or the Snipping Tool on Windows. Additionally, if you are using the Zoom Whiteboard for your pseudocode, the Whiteboard only screen shares itself — you will need to re-screen share to be able to see other windows such as your PyCharm window.



4. Ending section

When section has concluded, you may end the meeting by clicking the `End Meeting` button followed by clicking the `End Meeting for All` option, which will close the meeting room for everyone.

III. Useful features for enhancing the section experience

A. Increasing participation and engagement

Breakout rooms

Breakout rooms will be used during Office Hours. Note that students cannot be in a breakout room together without a Section Leader (due to rules related to programs with minors).

- From the Zoom call, click `Breakout Rooms` at the bottom of the page.

Adapted from “Code in Place SLs' Guide to Virtual Section,” by Code in Place Team. 2020.

- You'll be able to pick how many rooms you want and either assign automatically or manually.
- Click `Create Breakout Rooms`.
- If you chose to assign manually:
    - Click `Assign` next to the breakout room and select the participants you would like to be in the room.
    - Once assigned, you can change assignments by floating your mouse over a participant name and selecting `Move To` or `Exchange`.
- When you're ready, click `Open All Rooms`; students will automatically be moved into their breakout rooms.
    - While in the breakout rooms, students can speak and have their video on, as well as share their screen or chat.
    - People in breakout rooms will also have the option to invite you to the room if they have a question by clicking `Ask for Help`.
    - You can also join any breakout room, even if your help hasn't been requested, by clicking `Join` next to the breakout room (and then `Leave` when you're ready to leave).
    - You can send a message to everyone by clicking `Broadcast a message to all`; this is helpful for things like letting them know how much time they have left.
- When you're ready, click `Close All Rooms`; your students will have 60 seconds to wrap up any discussion before being moved back into the main Zoom call.
- Zoom's instructions on managing breakout rooms here.

Polling

Zoom also has a feature that allows you to poll the participants in the call. You can create polls ahead of time or during a meeting. Zoom's instructions on polling for meetings here.

Creating polls before section

- Go to zoom.us/meeting (or stanford.zoom.us/meeting if you're a Stanford-affiliated user) and select the meeting for which you want to add a poll.
- The polls for the meeting will show up at the bottom of the page (or it will say "You have not created any poll yet"). Click the `Add` button.
- Add a title for the poll. You can also make the poll anonymous if you would like.
- For each question in the poll, you can enter the text and then select "Single Choice" (students will only be able to select one answer) or "Multiple Choice" (students can select multiple answers). Add the different answer options.
- You can create multiple questions by clicking `Add Question`.
- Once you're done, click `Save`.
- You can create multiple polls for a meeting - just repeat the steps above!

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

Creating and launching polls during section

- You can also create a poll during section by clicking `Polling`. Then, follow the instructions above to create the poll and populate it with options.
- When you're ready to launch the poll, click `Polling` at the bottom of the screen.
- Select which poll you would like to launch and click `Launch Poll`.
- Your students will be able to enter their answers, and you'll be able to see the results as they come in. Click `End Poll` once you're ready.
- You can share the results or relaunch the poll.

Nonverbal feedback

Zoom also has non-verbal feedback features that you can encourage your students to use in lieu of response (`raise hand`, `yes`, `no`, `go slower`, `go faster`, etc.).

- Make sure you've clicked on `Manage Participants` so that the Participants sidebar is displayed; this is where you will be able to view what feedback icons your students have clicked on.
- You may also click on the `clear all` eraser icon, which will remove all feedback icons your students have clicked on.
- We recommend using the non-verbal feedback features to supplement the chat feature to offer multiple mediums through which students can participate.
- These features can be especially helpful when it comes to **establishing norms around section participation**. In particular, one suggestion that we have is to encourage students to avoid talking over one another and instead use the non-verbal features (e.g. `raise hand`) to indicate that they have something to contribute, at which point you can more effectively moderate the conversation as appropriate.
- We would also encourage you to use this in addition to (rather than instead of) the chat feature mentioned above.
- Zoom's instructions for enabling and using non-verbal feedback here.

Chatting

- Use the chat for students to let you know when they have questions. **Students can send a message to the group or to you individually**. You can then voice their question or you can "call on" a student to ask their question.
- Encourage students that they can "anonymously" ask questions to the class by directly messaging you their question, at which point you can answer the question without having to single out the person who asked it. This can encourage students who would traditionally be discouraged during section to have a lower-stakes way of participating.
- The chat feature is **especially important if students' microphones aren't working,** as this may be their only way of communicating with you.

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

- **Be sure to monitor the chat consistently** to see when questions are coming in (it can be helpful to have the chat open in a side panel or in a pop out).
- Zoom's instructions on using in-meeting chat here.

Student screen sharing

You can also have students share their screens. Note that the default setting is that only one person can share their screen at a time, but you can toggle this by clicking the `^` button directly to the right of the `Share Screen` button.

B. Presenting information via screen sharing

Having visuals on the screen will be extremely helpful, especially for students with slow internet connection or audio issues. You can share your screen by clicking `Share Screen` at the bottom of the Zoom call (or visit screen sharing instructions here).

Note: While we highly recommend screen sharing as an effective way to enrich the material that you will be teaching in section, we also recommend checking out the Accessibility section below for considerations to take into account when screen sharing.

Here are some different ways of presenting information when screen sharing in Zoom:

Slides

Slides may be helpful for reviewing concepts or introducing section problems. You can also edit them for brainstorming ideas, pseudocode, and code (Google Slides has some great features for accessibility, so this may be a better option than using a code editor - see Accessibility considerations section for more details).

Text editor/IDE

When working on pseudocode and code, you can screen share a text editor/IDE (e.g. PyCharm). However, keep in mind that this may not be accessible for all students, so consider using the Workspace function in Ed. Google Slides, which has live captioning, if needed is another option.

Whiteboard

Zoom has a built in Whiteboard that you can share with your students (click `Share Screen`, and then `Whiteboard`), which allows you to draw diagrams and add text. You can also enable the whiteboard to allow students to also draw on it; you can find Zoom's instructions on a shared whiteboard here.

- If you have an iPhone or iPad, Zoom also allows you to share your screen from your device. Stanford accounts should have free access to **Microsoft Whiteboard**, which is one tool you can use is - it's similar to the Zoom whiteboard, but using it on an iPad or

iPhone would allow you to write without trying to do it with your mouse. You can download the app or access online at portal.office.com, clicking the grid in the upper left corner, clicking “All Apps”, then selecting Whiteboard. You can find more information about Microsoft Whiteboard here.

Annotation

Annotation tools (Zoom’s instructions here) allow you to type, draw, and more on your shared screen or whiteboard. Note that your students will be able to annotate on your shared screen unless you disable the annotation option for non-hosts.

Additional cameras

Zoom also allows you to screen share from a second camera, such as a document camera, if that’s something you have access to. Instructions for sharing a second camera here.

- If you have an iPhone or iPad, you can make your own doc cam! (To our knowledge, Zoom doesn’t let you share your screen from other devices, but let us know if this isn’t true). See this video for instructions.

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IV. Accessibility considerations

As always, we want to make every effort to make sections accessible to all students, and virtual sections present some new challenges.

A. Live captioning

Automatic live captioning is not available in Zoom. However, there are some alternatives to work around this:

- Google Slides has a live captioning feature. If you share your screen using Google Slides, live captions will appear on the screen.
- Keep in mind that most of your students will probably benefit from closed captioning, especially if the audio is lagging, so consider trying to use Google Slides when possible (instead of sharing code in a text editor). One thing you could do is write the code in Slides and then copy and paste into the text editor if you want to run it.
- You can see Google's instructions for live captioning here.

B. Audio descriptions

While sharing visuals will be an effective way to develop student understanding during section, also be aware that you may have students with accessibility concerns (like visual impairment) that may prohibit them from being able to see the visuals that you are sharing. For this reason, try to **always narrate the material that is appearing on the screen** (including drawings, figures, and diagrams). In fact, this is helpful for all students, as having multiple avenues (audio + visual) for processing the information that you are presenting will provide more effective pathways for learning. Finally, it can also be helpful to establish a way in which students can let you know if they were unable to hear you (due to technical or other issues).

C. Other considerations

For other consideration to keep in mind when thinking about how to make sure that your section and section materials are accessible to everyone, check out the list of suggestions under Strategy 3 (Ensure course materials are accessible) of the CTL Guide to Equitable and Inclusive Online Learning.

Adapted from "Code in Place SLs' Guide to Virtual Section," by Code in Place Team. 2020.

V. Troubleshooting

A. If your microphone is not working...

...use the **phone number listed in the Zoom invitation** when you set up a Zoom call. You can use your phone as the microphone and audio source for your call rather than your computer's built-in microphone if necessary.

B. If your Internet connection is slow or lagging...

...consider **temporarily turning off your video stream** and only maintaining the audio stream. Sometimes, running the web camera on your computer will use up the Internet's bandwidth in a way that might make communication challenging. Turning off the video should improve communication quality and consistency.

C. Other issues?

See Zoom's help center here.

VI. Resources

These resources are largely provided by the Center for Teaching and Learning. We'll continue adding to this list as we find other useful resources!

A. General tips for teaching online

1. Tips and Tricks for Teaching in the Online Classroom: Jim Harrison and J. Diane Martonis (*Faculty Focus*)
2. Selecting the Appropriate Communication Tools for Your Online Course: Rob Kelly (*Faculty Focus*)
3. 8 Lessons Learned from Teaching Online: EDUCAUSE Research Library
4. How To Be a Better Online Teacher: Flower Darby (*Chronicle of Higher Education*)

B. Stanford resources

1. Stanford's Teach Anywhere, the extensive and ever-growing official campus resource!
2. Stanford's Zoom Knowledge Base - requires SUNet login
3. Stanford CS Department Zoom Security Guide

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C. Zoom resources

1. Zoom Cheat Sheet
2. Zoom Effectively: Discover Ways to Lead Inclusive Meetings and Participate Productively
3. Zoom's Help Center

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